NPL-U4-3-L34

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September 29, 1987

11/4/87

Mr. Robert E. Layton, Jr., P.E.
Regional Administrator
United States Environmental
Protection Agency
Allied Bank Tower at Fountain Place
1445 Ross Avenue
Dallas, TX 75202

RE: Arkwood Site near Omaha, Arkansas

Dear Mr. Layton:

Thank you for taking the time to hear my clients' appeal of the administrative order issued by you on the above site dated August 3, 1987. Although you did not change your opinion about the administrative order we still appreciate the opportunity to explain our position to you.

The most disturbing part about this case is that our pleas and protests have been ignored by the EPA staff. They are proceeding as if our site contains the same contaminates and dangers as a "Love Canal" site and are applying the same rigid and expensive standards to it. My clients saw you as a somewhat neutral unprejudiced mind even though you are the administrator. They thought that you were truly concerned about our plight of being caught in a bureaucratic process with no room for reasonableness or common sense.

From the beginning we have maintained that this site was not sufficiently contaminated so as to justify the tremendous expenditures that have been demanded by EPA. We have been forced into taking a negative and defensive position on the demands made by EPA for an expensive study and cleanup. It is true that we did refuse access to this site for the RI/FS plan that was agreed upon by EPA and MMI. MMI was willing to agree to the EPA mandated plan because they intend to recoup their expenditures from my clients under a lawsuit that is now pending in the Circuit Court of Boone County, Arkansas. Since the RI/FS plan itself is estimated to cost approximately 1.5 million dollars it was necessary for my clients to fight that proposal in order to avoid bankruptcy. If the study costs that much and the cleanup could cost more it is obvious that we will have to fight all procedures at all levels in order to avoid ultimate financial ruin of my clients. These are the facts which have mandated my clients' position in this matter.

Of course, we are not against a clean environment and we have always been willing to take the steps that are reasonably required by this site to assure that it causes no harm to the environment or people in the area. But, we have not been given that choice by the EPA to date. They insist on the normal nationwide procedure for Superfund sites that just cannot be afforded by my clients. We think that position by the EPA staff is grossly unreasonable and self-serving and should be investigated by your office. In our efforts to be heard on this point, we have contacted our Representative and Senator in Washington and have had a meeting with Dr. Porter and Mr. Longest of your Washington office. And, as your files will reflect, this site has not been placed on the Superfund list and there are indications that the proper data will reflect an HRS scoring of under 20.

We don't know why the EPA staff has taken the position that the site requires the enormous expenditure of approximately 1.5 million dollars for a study before the matter can even be discussed for cleanup. But it is this position that we must continue to fight if my clients are to survive economically. You would need to see this sight to realize how unreasonable the EPA position is. Apparently, your staff considers the RI/FS as the only way to approach this problem, but there must be another way. We are now asking you to take a closer look at this file and determine from your own personal judgment if the staff position is correct.

We are currently involved in a state court action filed by the State of Arkansas seeking a study and cleanup of the sight. In connection with the state court case, my clients have paid $30,000 to an expert to prepare a plan to correct any problems at the site that would constitute a danger to the environment or persons. We call this plan the "Cranmer Plan" and we will be presenting it to the state court judge at the trial in February and asking for its approval to relieve the dangers present at the site. This plan is a study action plan that makes the remedies on the site as the study is being made. It is estimated that this plan will remove all hazards at a cost of $300,000 to $600,000. The State of Arkansas has a copy of this plan and I assume that your office has received a copy from the state. We believe that this plan will offer sufficient protection for the environment and the people at a cost that is affordable by my clients with assistance from MMI. You will note from your files that the RI/FS plan currently being conducted by MMI has such absurd extravagance in it as a testing of numerous sites over and over at a cost of $1,000 per test. We have documentation that the last test of 40 some odd sites around the Arkwood plant cost approximately $50,000 and all results were negative except one. The plan requires that same test to be made over and over at the same cost.

Mr. Layton, I know that if you ask your staff their opinion on what I have said in this letter they will merely say to you that it is without merit. If that is all the attention that you can give to this request then I do not expect any results as your staff is close-minded on this project and intend to require the responsible parties to expend several million dollars even if the end result is that the site needs no cleanup. I am asking you to go further than that and assess the seriousness on your own personal knowledge and belief and to take whatever action you think proper in the case. My clients believe that you are a fair person and we await your response to this request.

Thank you.

Very truly yours,

By: Bill Doshier

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BFD/db

cc: Senator Dale Bumpers
Cong. John Paul Hammerschmidt

Exhibit "2"

STATUS OF THE SITE

Introduction

The following paragraphs describe the procedures and comparisons utilized by CAI when evaluating and ranking the Site. The Site was a small, single cylinder operation, about 1% the size of the American Creosote Works, a Superfund site in Pensacola Florida, which operated for 80 years before being abandoned. The Site operation was also much smaller than the Koppers plant in Texarkana. A residential community, Carver Terrace, is built on top of the abandoned Koppers site. The Koppers site is not considered by EPA to be an imminent hazard. The Site, even at its peak in 1981, was never considered an emergency by ADPC&E, but a condition which could pose long-range risks to the environment and people living nearby if actions were not taken to curtail PCP and creosote migration off-Site. The Site has not, does not and will not present an imminent and substantial risk to man or the environment. The environmental status of the Site has been steadily improving since production ceased in 1984. The plant was dismantled in 1986 and surface waste disposal sites stabilized in 1987. The Site does require additional remedial actions to be taken if migration of PCP in groundwater is to be curtailed in the near future, however no irreparable harm will during the orderly development of a RI/FS Plan by CAI. CAI believes that the GMI RI/FS posed significant risk to man and the environment if implemented. CAI believes that the GMI plan should be stayed pending a careful analysis and justification of the need to penetrate the Site aquitard.

Preliminary Assessments

The first step in CAI's evaluation of the Site was to obtain and review available reports, documentation and regulatory actions. Very useful "preliminary assessments" had been conducted by ADPC&E and contractors of MMI such as MCE and GMI. The lead environmental agency was the ADPC&E until 1985. The US EPA assumed the lead when the Site was proposed for listing on the NPL.

Site Inspections

Various Site inspection and evaluation teams, including CAI, have compiled voluminous documentation describing the Site. Work plans have been prepared. Groundwater, soil, surface water, stream sediment and sludge from lagoons have been sampled and analyzed for their contents. The average inspection required taking ten to twelve samples for analysis. Hundreds of analytical chemistry procedures have been performed. In addition to sampling, inspections included a reconnaissance of the Site's layout and terrain in order to document all buildings or structures, access roads, the location of nearby residences. Finally, surveys of vicinity wells and springs have been performed.

The preliminary assessments by ADPC&E indicated a release of PCP and possible components of creosote from the Site. These releases were considered to have the potential to threaten human health or the environment. The State agreed to accept a remedial action plan prepared by MCE for MMI prior to EPA taking the lead.

The remedial action taken by MMI and landowners have for the most part exceeded those actions previously acceptable to ADPC&E.

The purpose of the EPA Site inspection was to examine the Site first-hand and supposedly learn enough to guide the ranking of the Site for possible placement of the National Priorities List (NPL). Although these regulatory actions were major efforts they were not expected to, and indeed did, not provide all the information required for formulation of a remedial action plan acceptable to EPA.

The results of several inspections and studies by contractors have been provided to EPA. Nevertheless EPA has demonstrated a continued determination to place the Site on the NPL. Placement on the NPL is of great significance because NPL sites are eligible for long-term remedial response actions using Superfund money and EPA's authorities are enhanced. In order to rank the sites and set priorities, EPA and the State use a special scoring system called the Hazardous Ranking System (HRS). If used properly, the HRS takes into consideration the types and quantities of wastes at the Site, the extent of contamination that has already occurred, especially of ground water, and the numbers of people living or working near the Site who could be exposed to migrating hazardous chemicals escaping from the Site. There were significant errors made by EPA in the HRS ranking of the Site. These errors will now be discussed in detail.

Waste Quantity Calculation

The quantity of PCP and creosote remaining at the Site has been controversial and has been recalculated by various parties. EPA estimated a total quantity of waste at the Site to be 6,234 tons. EPA grossly overestimated the quantity present. The quantity cited by EPA was calculated erroneously as follows. Mr. Bob Barker of MMI provided estimates of product loss to ADPC&E representatives in 1981. Mr. Barker stated that the plant produced a total of 500 gallons of waste per year. EPA multiplied this 500 gallon per year figure by the 22 years that the plant was in operation, for a total of 11,000 gallons. EPA then added to this total the same waste located in the Railroad Ditch Pit and Sawdust Pile. The Railroad Ditch Pit contains sludge and soil contaminated with creosote and pentachlorophenol. The volume of the Railroad Ditch Pit was estimated by EPA to be 67 cubic yards (40 feet long, 15 feet wide, and 3 feet deep). The Sawdust Pile at the east end of the Site was estimated to be 6,111 cubic yards (275 feet long, 150 feet wide and 4 feet deep).

MMI, via its attorney Alan Gates, was the first party to take formal issue with EPA's calculations. Mr. Gates correctly responded during the EPA-NPL comment period that the waste quantity calculations for the Site improperly recorded wastes more than once and consequently overstated the total quantity of waste at the Site. CAI has confirmed Mr. Gates points and expanded the evaluation quantitatively.

CAI has estimated the quantities of waste released at the Site. Several assumptions were made prior to initiation of calculations.

1. No PCP was used until 1968. Creosote was used exclusively from 1965 to 1968.
2. After 1968, the average split between PCP and creosote was 50%.
3. Sales for 1984 were estimated for 6 months of operation.
4. Sale dollars are related to production volume after adjustments for inflation which was estimated at 5% per year.
5. The creosote:oil mix ratio was 1:1.
6. The PCP:oil mix ratio was 1:19.
7. 500 gallons of waste was released in 1981.
8. 60% of the posts were treated in 1965 increasing to 90% in 1981.
9. Changes in operations occurred in 1982 which resulted in only 100 gallons being lost.

The following table provides the details of the CAI calculations. It has been estimated that approximately 1,771 gallons of creosote and 150 gallons of of PCP were released on the Site over a 20 year period. A considerable portion of this material has been lost from the Site by the processes of rainwater scouring, on-Site burning and spontaneous volatilization.

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Year	Value of 1984 Dollar* ($)	Adjusted Sales	% Treated††† Creosote	% Treated††† PCP	Creosote Waste (gallons)	PCP Waste (gallons)	Total (gallons)
1965	0.38	384,210	60	---	72	---	72
1966	0.40	1,030,000	62	---	250	---	250
1967	0.42	1,400,000	64	---	260	---	260
1968	0.44	1,104,545	33	33	100	100	200
1969	0.46	1,215,217	34	34	110	110	210
1970	0.49	1,440,816	35	35	120	120	240
1971	0.51	1,717,647	36	36	140	140	280
1972	0.54	2,103,704	37	37	180	180	360
1973	0.57	3,378,947	38	38	280	280	560
1974	0.60	4,890,000	39	39	360	360	720
1975	0.63	2,371,428	40	40	180	180	360
1976	0.67	3,088,059	41	41	220	220	440
1977	0.70	2,714,285	42	42	180	180	360
1978	0.84	3,513,513	43	43	260	260	520
1979	0.77	3,506,493	44	44	240	240	480
1980	0.81	3,456,790	45	45	200	200	400
1981	0.86	3,516,279**	45	45	220	220	440
1982	0.90	2,368,888	45	45	140	140	280
1983	0.95	1,578,947***	45•	45•	20	20	40
1984	1.00	750,000***	45•	45•	10	10	20
Total					3,542 x 0.5†	2,960 x 0.05††	
Amount of Pure Chemical (gallons)					**1,770**	**150**	**1,920**

* Assume 5% inflation rate as average between 1965 - 1985.
** Loss estimated as 500 gallons.
*** Loss reduced by 80% due to operational charges.
† Mix was 50% creosote:50% oil.
†† Mix was 5% PCP:95% oil.
††† Assume 60% treated in 1965 increasing to 90% treated in 1981, steady thereafter.
• Change in operating procedure effects 80% reduction in waste loss.

The majority of surface pollution at the Site was due to product loss due to excess treatment chemicals dripping from stored posts and convenience spraying in the storage yard. The vast majority of this material was lost continuously from the Site over the years with little chance of concentrating in the environment.

Waste confined in Sinkholes and Pits has been concentrated and protected from rain water runoff. Areas of concentrated waste remain at the Site. The wastes in these areas is contained, concentrated and a large portion can be effectively and efficiently removed and properly disposed of.

Minor dispersed micopockets exist in the microcaverns underlying the Site. Some connections between channels are possible, even likely, but the dispersed micropockets are not practical targets for remedial action and do not represent imminent and substantial hazards to man or the environment.

PCP levels as high as 1.6% have been reported in the Sinkhole. The volume has been reported to be 4 cubic yards. Therefore, 12 gallons of PCP may be in the Sinkhole. The railroad Ditch Pit area has had quantities between 1 and 5% PCP reported on the near surfaces. If one assumes that the volume is 68 cubic yards, then up to a maximum of gallons of PCP may be present with a best estimate of less than 125 gallons.

There could be up to 10 gallons of PCP in the Ash Pile.

If we assume that a 10,000 square feet area around the Trolley/Treatment Cylinder Area is contaminated to a depth of 3 feet at an average of 100 ppm, a total of 40 gallons of PCP could be recovered.

Previous calculations have relied on Mr. Barker's estimate that 500 gallons of wood treating chemicals, including oil, being lost in 1981. If PCP were used for 16 years (1968-1984) and if 5% PCP solutions represented 50% of sales, then 150 gallons of PCP would have been released at the Site. This is in reasonable agreement with the estimates based on analytical chemistry data.

Estimates of PCP by Analytical Chemistry		By Bob Barker
Sinkhole	12 gallons	
Railroad Ditch Pit	125 gallons	
Ash Pile	10 gallons	
Trolley/Treatment Area	40 gallons	
Total	187 gallons	150 gallons

CAI was unable to confirm that the expected large quantities of creosote remain on the Site. A partial explanation is that creosote burns more readily than PCP. Major creosote components are more soluble in water than PCP. Finally, major creosote components are lighter than water while PCP is twice as dense and sinks.

EPA has not been unaware of their HRS scoring errors. Important points relative to the quantity of waste at the Site were made in comments from Alan Gates, attorney for MMI, to EPA. Mr. Gates pointed out that the first item in EPA's calculations represented an estimate of waste generated over the operating life of the plant. The railroad ditch is one of the areas where EPA double counted. All of the wastes placed in the railroad ditch had already been counted once as part of the total waste released. It was inappropriate to count the wastes a second time. The total volume of the contaminated soil in the railroad ditch is undoubtedly larger than the volume of waste which is contaminating the soil. Mr. Gates' point was that it is inappropriate to add soil or other matrices at a Site to the amount of chemical waste present. Only the amount of the contaminating hazardous substance is to be included in the waste quantity calculation according to the Uncontrolled Hazardous Waste Site Ranking Users Manual. 47 Federal Register 31187, at 31229 (published July 16, 1982). CAI followed upon Alan Gates' point and calculated the PCP in the Railroad Ditch Pit to be 1.5 cubic yards.

Calculation of total waste in the Sawdust Pile represented another significant error in the EPA estimate of waste quantity. The pile of sawdust and shavings at the east end of the Site had been generated by wood planing equipment and had been used exclusively on untreated wood. The sawdust and shavings themselves originally contained no treatment chemicals. Evidence obtained by MMI indicated, however, that the Sawdust Pile,in 1986, was contaminated with pentachlorophenol in the low parts per million range.* The most reasonable source of the pentachlorophenol observed in the Sawdust Pile was derived from Bob Barker's statement that MMI's used the liquid wastes for dust control purposes.

The wastes in the Sawdust Pile, just as in the case of the Railroad Ditch Pit, were counted twice by EPA. Inclusion of the entire volume of the Sawdust Pile improperly added a substantial volume of soil and sawdust. Mr. Alan Gates also noted that the dimensions attributed to the Sawdust Pile by EPA overstated its volume by more than two orders of magnitude. MMI photographed and surveyed the Sawdust Pile. MMI's measurements indicated that the Sawdust Pile had a surface area of 2,108 square feet and an average depth of six to nine inches. These dimensions resulted in a total volume of less than 60 cubic yards. CAI estimated that in May 1987, the volume of the Sawdust Pile was less than 40 cubic yards.

Why was there such a large descrepancy for the Sawdust Pile? EPA's estimate of 6,111 cubic yards for the volume of the sawdust pile had been based upon an April 1985 memorandum from Doice Hughes, a geologist with ADPC&E, to Tim Perdue in the EPA Region VI Office. According to Mr. Gates, MMI discussed its photograph and survey with Mr. Hughes. Mr. Hughes indicated that the dimensions he originally reported to EPA were only an estimate and later indicated that he did not question the accuracy of MMI's measurements. CAI estimated that less than one pound of PCP exists in the Sawdust Pile. EPA has been inconsistent in its treatment of the Sawdust Pile at the Site as a hazardous waste. For example, EPA, in PD-4 suggested that discarded PCP-treated wood could be buried or burned in incinerators.

The obvious exaggeration by EPA of quantities of PCP and creosote present at the Site makes the situation appear far worse than it is. It is the opinion of CAI that the Site should not be included on the NPL. The Site's HRS score, when calculated correctly, clearly does not justify NPL inclusion.

EPA further exaggerated the Site's status with erroneous HRS groundwater scores. EPA's HRS Groundwater Targets value was based, in part, on the assumption that there were "no significant aquitards" separating the shallow groundwater system in the immediate vicinity of the Site (which has shown trace contamination by PCP and possibly creosote), and the deep aquifer that supplies the Omaha municipal water system and other groundwater users within a three mile radius.

*The documentation Record of EPA's HRS scoring indicates that the sawdust pile was included in the calculation of waste quantity because two 1979 soil and sawdust samples taken by the ADPC & E showed pentachlorophenol contamination at levels of 30,000 and 23,000 ppm. MMI questioned the levels of pentachlorophenol reported in these samples and they took three samples from three different portions of the sawdust pile for independent verification. The samples taken by MMI were analyzed by the McKesson Environmental Services Laboratory in Dublin, CA. The analytical results showed penrachlorophenol at 0.5 ppm, 2.1 ppm, and 170 ppm.

Considerable data exists which contradicts EPA's opinion and alleviates CAI's initial concern. MMI retained Geraghty & Miller to conduct a geohydrologic investigation of the Site and the surrounding area. Geraghty & Miller, in their initial Site assessment and monitoring data indicated that contaminants had been found to reside only in the shallow (less than 50 feet below land surface) interconnected solution caviities found at the base of the limestone formation. Water that entered the shallow drainage system flowed laterally westward through the shallow solution features, emerging as a spring along Cricket ~~Creek~~ Pond about 400 yards from the Site. Most of the domestic wells within about a mile of the Site had been tested; only three wells located in a very small area between the Site and spring contained the contaminants. It was believed that the contaminants entered the wells via the shallow solution channels because the wells were cased only into the top of the limestone (and not to the depth of the solution channels), and a 300-foot thick confining bed existed below the shallow water-bearing zone.

It was GMI's belief, and CAI concurs, that the 2100-foot Omaha municipal water well is not in any way threatened by waste from the Site. Several hydrogeologic reasons supported this conclusion:

1. The hydraulic gradient at the Site has been determined to be northwestward (the Omaha well was located to the northeast);

2. The distance between the Site and the Omaha well is about one mile;

3. Several domestic water wells are located between the Site and the Omaha well that have not been found to be contaminated and , if designated as such, could act as an early warning system;

4. Several thick aquicludes existed between the shallow zone in which contamination has been observed and the aquifer that was tapped by the Omaha well; and

5. A properly cased 900-foot well that was located on the Site itself had been sampled repeatedly and was free of any contamination.

Water Well Inventory and Construction Details of Wells
Within Three Mile Radius of the Site.

Well Owner	Use of Well	Date Well Completed	Depth Interval of Water Producing Formation (ft)	Type of Formation	Depth to Water (ft-bls)	Total Depth of Well (ft-bls)
Omaha City Well*	Municipal			Dolomite		2100
John Atchison	Domestic	09-08-80	780-785	Limestone	400	795
Frank Atchison	Domestic	09-08-78	525-530	Limestone	380	550
Robert Behrens	Domestic	07-17-82	274-274.5	Limestone	240	565
Robert Behrens	Domestic	01-26-80	280-300	Limestone	350	400
Robert Behrens - abandoned	Domestic	01-26-80	280-300	Limestone	350	496
Dean Curhow	Domestic	10-20-78	664-670	Limestone	410	775
Mildred Davidson	Domestic	10-20-78	660-665	Limestone	–	687
Bud Essary	Domestic	07-15-76	210-215	Limestone	160	300
Bud Essary	Domestic	07-20-81	640-650	Limestone	300	688
Clifford Ford	Domestic	10-02-75	384-385	Limestone	250	415
Clinton Hicks	Domestic	09-18-72	470-480	Limestone	360	650
John Huston	Domestic	12-10-79	441-445	Limestone	350	496
Fernam Jones	Domestic	03-15-79	520-530	Limestone	450	550
Norman Klasener	Domestic	10-30-77	450-470	Sandstone	375	505
James Lovell	Domestic	11-20-74	400-440	Limestone	300	480
Leonard Matlock	Domestic	08-20-76	645-690	Sandstone	430	705
McGinnis	Domestic	07-29-75	593-594	Limestone	400	610
Charles McMahon, Jr.	Domestic	06-15-77	348-352	Limestone	—	412
Don Moore	Domestic	07-28-75	519.5-520	Limestone	350	550
New Hope Baptist Church	Domestic	05-17-71	190-195	Sandstone	330	555
Nelson Rice	Domestic	09-74	—	—	—	783
Sid Richardson	Domestic	01-08-77	770-772	Limestone	375	775
John Robinson*	Domestic	07-15-73	600-610	Limestone	480	640
T.C. Sallee	Domestic	08-01-73	580-690	Limestone	430	710
Cam Tong	Domestic	05-17-71	725-730	Limestone	380	735
John Wood, Sr.	Domestic	02-23-73	145-253	Limestone	—	253
Nelson Rice	Domestic	09-74	—	—	—	783
Omaha School Well	Domestic	—	—	—	—	—
Cathy Duggan	Domestic	—	—	—	—	—
Binam	Domestic	—	—	—	—	—
Birmingham	Domestic	—	—	—	—	—
Birmingham - abandoned	Domestic	—	—	—	—	—
David Miles	Domestic	—	—	—	—	—
O.C. White	Domestic	—	—	—	—	—
O.C. White	Domestic	—	—	—	—	—
Tate	Domestic	—	—	—	—	—
Site*	Industrial	—	—	—	—	—
House w/ Satellite Dish	Domestic	—	—	—	—	—
Turney	Domestic	—	—	—	—	—

*The Omaha City water supply is located within one mile of the Site. The total depth of the well is 1315' with a casing depth of 60'. The only water well sample taken was from the Site. The depth of the well is unknown, however, the pump (submergable) was set at 920'.

Cranmer and Associates, Inc.

PENTACHLOROPHENOL ANALYSIS OF GROUND AND SURFACE WATER

Date	Cricket Spring	Behren Cisttern	Behren Well	RR Spring South	Canning Fact. Spring	Miles Well	Birmingham Old Well	Birmingham New Well	Binam Well	RR Culvert Sludge	RR Ditch Runoff	Site Run-off
1982												
04-14	8.3	5.6		5.6	0.005				ND	0.005	-	
06-29	2.7	0.48		0.004					0.004			
07-26	0.013		0.0003	0.0002					0.0001		0.24	
08-23												0.037
10-09	0.004		0.001	0.046					ND			
10-30	0.002		ND	0.0002								0.010
12-14	0.002		ND	0.0002								0.004
1983												
01-15	0.002		0.0009	0.0015								
01-31	0.006		0.00009									
02-23	0.001		0.0005	ND								
04-01	0.003		0.0001	0.0003								
05-03	0.0006		0.00008	0.0003								0.002
05-27	4.0		0.0006	0.0004					0.0001			
06-28	10.0		ND	0.03								0.87
08-01	4.2		ND	0.011								
09-07	9.0		0.0033	0.029								
09-30	97.0		0.0002									
10-31	15.0		0.0011	0.0046								2.0
11-30	10.0		0.0002	0.14								2.6
1984												
01-06	5.7		0.0031	0.012								
02-03	11.0		0.37	0.002					ND			
02-20				0.012								0.28
02-28	7.4		0.0019	0.28					0.0028			
03-13	0.023										7.7	10.6
03-23	5.6		ND	0.100								
05-11	4.6		0.0002	0.057						0.57		4.2
06-01	5.7		0.0005	0.051					0.0081			
08-24	54.0			0.0039					4 tests			
10-07	9.2			0.0099					in '85 &			
12-07	5.5								'86 no			0.28
12-19	3.7			0.017		0.011			PCP			
1985												
05-20	1.9			ND	ND	ND	ND	ND				
06-04	4.5			ND			ND					
11-25				ND								
1986												
03-04	ND		ND			ND	ND					
03-19		ND		0.01			ND	ND				
03-31	1.4				ND							
06-24	ND	ND	ND	ND	ND	ND	ND	ND				
09-24	5.1											
1987												
01-16	0.83	ND	ND	ND	ND		ND	ND	ND			
03-17	3.6											0.091
05-15	2.31											

(Also Duggan Well tested: ND)

Omaha City wells: No PCP in NUmerous 1982-1987 tests
1000' Site well: No PCP in numerous 1982-1987 tests
Walnut Creek: No PCP in numerous 1982-1987 tests
Cricket Creek: No PCP in numerous 1982-1987 trsts

Based upon the data generated by GMI, MCE, CAI and others (See preceding table), MMI and CAI believe that two corrections should be made in the Groundwater Targets value for the Site. First, the Groundwater Use factor should be reduced from 3 to 2, because users of domestic wells in the vicinity of the Site had a municipal water supply available nearby which draws from an alternate, unthreatened source. Second, the population served by domestic wells in the immediate vicinity of the Site which could have been affected by contamination in the shallow groundwater system totaled less than ten houses, or a scoring equivalent of 38 people. This near-Site population fell into the 1 to 100 population range that was assigned a scoring value of 1. Use of this revised population value, together with the revised Groundwater Use factor, lowered the Groundwater Targets score from 29 to 16. The revision of the Groundwaters Targets value, in turn, lowered the overall HRS score for the Site from 34.21 originally proposed by EPA to a corrected score of 18.87.

When the corrections for total Quantity of Waste and Groundwater Targets are included in the HRS calculation, the final score for the Site is reduced from 34.21 to 14.52. An itemized comparison of the original and revised MMI-HRS calculations as submitted to EPA by Alan Gates, Esq., follows. A HRS score of 14.52 is far below the level required for a NPL listing.

Cranmer and Associates, Inc.

HRS CALCULATIONS

	Original EPA Proposed	Waste Quantity Revised	Groundwater Targets Revised	Both Revisions
Line 1 - Observed Release	45	45	45	45
Line 4 - Waste Characteristics				
Toxicity/Persistence	18	18	18	18
Hazardous Waste Quantity	8	2	8	2
	26	20	26	20
Line 5 - Targets				
Groundwater Use (X 3)	9	9	6	6
Distance to nearest well/population served	20	20	10	10
	29	29	16	16
Line 1 X Line 4 X Line 5	33,930	26,100	18,720	14,400
Divided by 57,330	0.5918367	0.455259	0.3265306	0.2511773
Multiplied by 100	59.18367	45.5259	32.65306	25.11773
Divided by 1.73	34.2	26.32	18.87	14.52